

We claim:

1. A binder composition comprising a urea-formaldehyde resin, prepared at a formaldehyde to urea mole ratio in the range of about 2.1:1 to 3.2:1, modified with a protein, said protein provided in an amount of 0.1% to 10% by weight of urea-formaldehyde resin solids.
2. The binder composition of claim 1 wherein the protein is a vegetable protein.
3. The binder of claim 2 wherein the vegetable protein is a soy protein.
4. The binder of claim 3 wherein the soy protein is a soy flour and having a final formaldehyde to urea mole ratio in the range of about 1.4:1 to about 2.3:1.
5. The binder of claim 4 having the soy flour in an amount of about 0.2% to about 7% by weight of urea-formaldehyde resin solids.
6. The binder of claim 1 comprising a binder modifier selected from the group consisting of a styrene-maleic anhydride copolymer; a non-ionic amine oxide, optionally with a latex or a water-soluble polymer; a water-insoluble anionic phosphate ester and a fatty alcohol; and a styrene/acrylate/acrylonitrile polymer, supplemented with a polysiloxane.
7. A fiber mat bonded with a binder composition comprising a urea-formaldehyde resin modified with a protein, said protein provided in an amount of 0.1% to 10% by weight of resin solids.
8. The fiber mat of claim 7 wherein the protein is a vegetable protein.
9. The fiber mat of claim 8 wherein the vegetable protein is a soy protein.

10. The fiber mat of claim 9 wherein the soy protein is a soy flour.
11. The fiber mat of claim 10 having the soy flour in an amount of about 0.2% to about 7% by weight of urea-formaldehyde resin solids.
12. The fiber mat of claim 11 made using glass fibers.
13. The fiber mat of claim 7 wherein the binder comprises a binder modifier selected from the group consisting of a styrene-maleic anhydride copolymer; a non-ionic amine oxide, optionally with a latex or a water-soluble polymer; a water-insoluble anionic phosphate ester and a fatty alcohol; and a styrene/acrylate/acrylonitrile polymer, supplemented with a polysiloxane.
14. A process for making a fiber mat comprising (a) forming an aqueous dispersion of fibers; (b) passing the dispersion through a mat forming screen to form a wet non-woven mat and (c) applying a binder composition to the wet non-woven mat, the binder composition comprising a urea-formaldehyde resin modified with a protein, said protein provided in an amount of 0.1% to 10% by weight of resin solids.
15. The process of claim 14 wherein the protein is a vegetable protein.
16. The process of claim 15 wherein the vegetable protein is a soy protein.
17. The process of claim 16 wherein the soy protein is a soy flour.
18. The process of claim 17 having the soy flour in an amount of about 0.2% to about 7% by weight of urea-formaldehyde resin solids

19. The process of claim 18 wherein the fibers are glass fibers.
20. The process of claim 14 wherein the binder comprises a binder modifier selected from the group consisting of a styrene-maleic anhydride copolymer; a non-ionic amine oxide, optionally with a latex or a water-soluble polymer; a water-insoluble anionic phosphate ester and a fatty alcohol; and a styrene/acrylate/acrylonitrile polymer, supplemented with a polysiloxane.